

**Gridflex Energy, LLC**

1210 W. Franklin St., # 2, Boise, ID 83702  
(208) 246-9925 · [www.gridflexenergy.com](http://www.gridflexenergy.com)



September 23, 2019

Kimberly D. Bose, Secretary  
Federal Energy Regulatory Commission  
888 First Street, N.E.  
Washington, D.C. 20426

Re: Preliminary Permit Application for the Sweetwater Pumped Storage Project

Dear Ms. Bose,

Please find attached the application for the Sweetwater Pumped Storage Project. If you have any questions or need additional information, please contact me at (208) 246-9925 or e-mail at [mshapiro@gridflexenergy.com](mailto:mshapiro@gridflexenergy.com).

Sincerely,

A handwritten signature in blue ink, appearing to read 'Matt Shapiro'.

Matthew Shapiro  
Chief Executive Officer  
Gridflex Energy, LLC

# Preliminary Permit Application for the Sweetwater Pumped Storage Project

Prepared by:

Gridflex Energy, LLC  
1210 W. Franklin St., #2  
Boise, ID 83702

September 23, 2019

**VERIFICATION STATEMENT**

This application for a preliminary permit is executed in the

State of Idaho  
County of Ada

by: Matthew Shapiro  
Gridflex Energy, LLC  
1210 W. Franklin St., # 2  
Boise, ID 83702

being duly sworn, depose(s) and say(s) that the contents of this Preliminary Permit Application are true to the best of (his or her) knowledge or belief. The undersigned Applicant has signed the application this 23<sup>rd</sup> day of September, 2019.

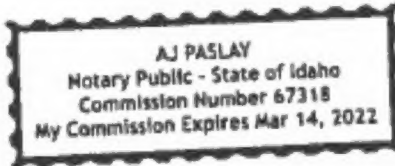
Applicant

By: 

Subscribed and sworn to before me, a Notary Public of the State of Idaho, this 23<sup>rd</sup> day of SEPTEMBER, 2019.



(Notary Public, or other authorized official)



PRELIMINARY PERMIT APPLICATION  
FOR THE  
SWEETWATER PUMPED STORAGE PROJECT

TABLE OF CONTENTS

Initial Statement .....	5
Section 4.32(a) Identification .....	7
Section 4.81Exhibits .....	9
Exhibit 1: Description of the Proposed Project .....	9
Exhibit 2a: Description of Proposed Studies .....	15
Exhibit 2b: Statement of Costs and Financing .....	17
Exhibit 3: Project Maps .....	18
Exhibit 4: Federal Lands .....	20

#### §4.81 (a) Initial Statement

(1) Sweetwater Energy Storage, LLC, an Idaho limited liability company, and the Ute Mountain Ute Tribe (“Applicants”) apply to the Federal Energy Regulatory Commission (“FERC”) for a preliminary permit for the proposed Sweetwater Pumped Storage Project (“Project”), as described in the attached exhibits. This application is made in order that the Applicants may secure and maintain priority of application for a license for this project under Part I of the Federal Power Act while obtaining the data and performing the acts required to determine the feasibility of the project and to support an application for a license.

(2) The location of the proposed project is:

State or Territory:	New Mexico
County:	San Juan
Township or nearby town:	Shiprock
Stream or other body of water:	None – Closed-Loop

(3) The exact name, business address, and telephone number of the Applicants are:

Sweetwater Energy Storage, LLC  
1210 W. Franklin St., # 2  
Boise, ID 83702  
Phone: (208) 246-9925

Ute Mountain Ute Tribe  
124 W. Mike Wash Road Tribal Complex  
P.O. Drawer JJ  
Towaoc, CO 81334

The exact name and business address of each person authorized to act as an agent for the Applicant in this application is:

#### Agent

Matthew Shapiro, CEO  
Gridflex Energy, LLC  
1210 W. Franklin St., Ste. 2  
Boise, ID 83702  
Phone: (208) 246-9925  
E-mail: [mshapiro@gridflexenergy.com](mailto:mshapiro@gridflexenergy.com)

Secondary Contact

Harold Cuthair, Chairman  
Ute Mountain Ute Tribe  
124 W. Mike Wash Road Tribal Complex  
P.O. Drawer JJ  
Towaoc, CO 81334  
E-mail: [hcuthair@utemountain.org](mailto:hcuthair@utemountain.org)

(4) Sweetwater Energy Storage, LLC is a domestic corporation and the Ute Mountain Ute Tribe is a federally-recognized tribe. The applicants are not claiming municipal preference under section 7(a) of the Federal Power Act.

(5) The proposed term of the requested permit is 48 months.

(6) There are no existing dams associated with the proposed Project.

#### §4.32. IDENTIFICATION

*(1). For a preliminary permit or license, identify every person, citizen, association of citizens, domestic corporation, municipality, or state that has or intends to obtain and will maintain any proprietary right necessary to construct, operate, or maintain the project;*

Sweetwater Energy Storage, LLC  
1210 W. Franklin St., # 2  
Boise, ID 83702

Ute Mountain Ute Tribe  
124 W. Mike Wash Road Tribal Complex  
P.O. Drawer JJ  
Towaoc, CO 81334

*(2)(i). Every county in which any part of the project, and any Federal facilities that would be used by the project, would be located:*

The Project will be located in San Juan County, New Mexico.

San Juan County Clerk  
100 South Oliver Drive  
Aztec, NM 87410

No Federal facilities will be used by the Project.

*(2)(ii). Every city, town, or similar local political subdivision:*

*(A) In which any part of the project, and any Federal facilities that would be used by the project, would be located:*

The Project will not be located within the boundaries of any city, town, or similar local subdivision.

*(B) Cities, towns, or similar subdivision (5,000 people or more) within a 15-mile radius of the project dam:*

Shiprock Chapter of the Navajo Nation  
P.O. Box 3810  
Shiprock, NM 87420

*(iii) Every irrigation district, drainage district, or similar special purpose political subdivision:*

*(A) In which any part of the project, and any Federal facilities that would be used by the project, would be located; or*

*(B) That owns, operates, maintains, or uses any project facilities or any Federal facilities that would be used by the project;*

There are no known special purpose political subdivisions that own, operate, maintain, or use any project facilities or any Federal facilities that would be used by the Project.

*(iv) Every other political subdivision in the general area of the project that there is reason to believe would likely be interested in, or affected by, the application:*

New Mexico Environmental Department  
P.O. Box 5469  
Santa Fe, NM 87501

New Mexico Historic Preservation Division  
407 Galisteo St., Ste. 236  
Santa Fe, NM 87501

*(v) All Indian tribes that may be affected by the project.*

Ute Mountain Ute Tribe  
124 W. Mike Wash Road Tribal Complex  
P.O. Drawer JJ  
Towaoc, CO 81334

Navajo Nation  
Division of Natural Resources  
P.O. Box 9000  
Window Rock, AZ 86515



## § 4.81 (b) Exhibits

### EXHIBIT 1: DESCRIPTION OF THE PROPOSED PROJECT

The project will be a closed-loop pumped storage hydropower facility comprised of two new artificial reservoirs joined by underground conduits, along with a pit-style powerhouse and associated generation, pumping, and transmission equipment. Maximum gross head would be 1,195 feet. Generating and pumping capacity would be 600 megawatts (MW). Annual gross energy production is estimated at 1,051,200 megawatt-hours (MWh). Details on project features are provided below.

#### Dams

	Height	Length at Crest	Type
Upper Reservoir Dam Lat. 36.932 Long. -108.485	40 ft	9,000 ft	CFRD or RCC
Lower Reservoir Dam Lat. 36.926 Long. -108.518	130 ft	1,700 ft	CFRD or RCC

#### Reservoirs

	MSL (ft)	Volume (AF)	Surface Area (ac)
Upper Reservoir Lat. 36.932 Long. -108.485	6,770	5,000	120
Lower Reservoir Lat. 36.927 Long. -108.514	5,685	5,000	163

Both upper and lower reservoirs would be lined as determined necessary and feasible.

#### Primary Conduits

	Length	Diameter, Each	Lining
Vertical Shaft (1)	1,200 ft	25 ft	Concrete-lined
High Pressure Tunnels (2)	5,000 ft	14 ft	Concrete- and steel-lined
Tailrace Tunnels (2)	3,300 ft	16 ft	Concrete-lined

## Powerhouse and Equipment

The powerhouse complex would consist of a surface structure and three vertical shafts, with tentative location at Lat. 36.928, Long. -108.504. Dimensions of the surface structure are tentatively 500' length, 80' width, and 50' height, and the building would be constructed of concrete and metal formwork. The project switchyard would be adjacent to the powerhouse.

Each of the vertical shafts would be 240' in depth and 80' in diameter, and each would house a variable-speed reversible pump-turbine and motor-generator with generating and pumping capacity of 200 MW, for a total plant capacity of 600 MW. The shafts would be excavated from rock and include steel and concrete formwork.

## Transmission Line / Interconnection

The tentative point of interconnection would be the San Juan Generating Station, which would be accessed via a new 345 kV transmission line approximately 9.3 miles in length.

## Water Sourcing

Initial fill water and make-up water for evaporation loss would be purchased from parties holding water rights associated with the San Juan Generating Station, which is expected to close within several years, or otherwise associated with the San Juan River. The exact point of diversion for delivery to the project would be determined during the study phase.

## Operation

The project will be operated to provide firm capacity to the regional power grid and to support the integration of new renewable resources interconnected currently and in the future. These resources—predominantly photovoltaic solar energy and wind energy—are emissions-free and increase energy security, but are variable and intermittent in nature. The Project will use the dynamic capabilities of pumped storage to aid in the efficient integration of solar and wind resources from both an operational and economic standpoint.

## Federal Lands

All but a portion of the project transmission line will be located on tribal lands within the Ute Mountain Ute Reservation. The transmission line would also cross federal lands managed by the Bureau of Land Management.

The associated Bureau of Indian Affairs office is:

Ute Mountain Ute Agency  
Bureau of Indian Affairs  
P.O. Box KK  
Towaoc, CO 81334

The regional Bureau of Indian Affairs office is:

Bureau of Indian Affairs  
Southwest Regional Office  
1001 Indian School Road, NW  
Albuquerque, NM 87104

The associated BLM office is:

Farmington District Office  
6251 College Blvd., Suite A  
Farmington, NM 87402

The following are legal descriptions for Federal lands involved:

Tribally Owned Sections

T31N R15W

Sec. 19

SW1/4 SW1/4

Sec. 30

NW1/4 NW1/4

NE1/4 NW1/4

SE1/4 NW1/4

NW1/4 SW1/4

NW1/4 SE1/4

SW1/4 SE1/4

Sec. 31

NW1/4 NE1/4

NE1/4 NE1/4

SE1/4 NE1/4

NE1/4 SE1/4

SE1/4 SE1/4

Sec. 32

NW1/4 SW1/4

SW1/4 SW1/4

T31N R16W

Sec. 1

NW1/4 NW1/4

SW1/4 NW1/4

NW1/4 SW1/4

SW1/4 SW1/4

Sec. 2

All

Sec. 3

All

Sec. 10

NW1/4 NW1/4

NE1/4 NW1/4

NW1/4 NE1/4

NE1/4 NE1/4

Sec. 11

NW1/4 NW1/4

NE1/4 NW1/4

SE1/4 NW1/4

SW1/4 NE1/4

NW1/4 SE1/4

SW1/4 SE1/4

SE1/4 SE1/4

Sec. 13

SW1/4 NW1/4

NW1/4 SW1/4

NE1/4 SW1/4  
SE1/4 SW1/4

Sec. 14

NE1/4 NE1/4  
SE1/4 NE1/4

Sec. 24

NE1/4 NW1/4  
NW1/4 NE1/4  
SW1/4 NE1/4  
SE1/4 NE1/4  
NE1/4 SE1/4  
SE1/4 SE1/4

T32N R16W

Sec. 35

SE1/4 SE1/4  
SW1/4 SW1/4

Sec. 36

SW1/4 SW1/4

BLM Managed Sections

T30N R15W

Sec. 5

NW1/4 NW1/4  
SW1/4 NW1/4  
SE1/4 NW1/4  
NW1/4 SW1/4  
NE1/4 SW1/4  
SE1/4 SW1/4

Sec. 8

NE1/4 NW1/4

SE1/4 NW1/4

NE1/4 SW1/4

SE1/4 SW1/4

Sec. 17

NE1/4 NW1/4

SE1/4 NW1/4

NE1/4 SW1/4

SE1/4 SW1/4

## §4.81 (c) EXHIBIT 2: DESCRIPTION OF STUDIES

### (1) General

#### (i) Study Plan

The Applicants plan to engage in the following studies in order to design the technical aspects of the project and to confirm its economic viability:

- Project land surveys
- Environmental impact studies
- Cultural resource studies
- Groundwater studies
- Energy production studies
- Water quality studies
- Water rights studies
- Engineering studies, including soil studies, test pits and core holes.
- Study on the energy market for the project
- Transmission interconnection studies
- Determination of equipment configuration and sizing
- Cost estimates

Additional studies may be required as the need arises.

#### (ii) New Roads

No new roads will be needed for the purpose of conducting the studies described in this exhibit.

### (2) Work Plan for New Dam Construction

#### (i) Description of field studies, tests, and other land disturbing activities

A subsurface investigation will be required to determine the rock structure and stability for the proposed dam sites. Samples shall be checked for rock structure as well as determine the suitability for project features for the dams and power tunnels. The Applicants propose to use existing roads located within the project boundary to minimize or eliminate the potential for any land disturbing activities.

(ii) Studies Schedule

Work Item	Schedule	
	Month Beginning	Month Ending
<b>Engineering</b>		
Conceptual refinement and evaluation of alternatives	0	6
Initial scoping and consultation	0	8
Engineering studies	0	24
Environmental & cultural studies	0	24
Geological investigations	8	16
Selection of equipment	16	18
<b>Environmental</b>		
Agency consultation	0	6
Environmental studies	6	20
Prepare draft application	12	24
<b>Other</b>		
Land & ROW	0	24
Water rights studies	0	36
Transmission interconnection planning	6	24
Cost estimating, economic feasibility, and financial planning investigations	8	24
Power sales marketing	12	24
Additional stage consultation and documentation	20	36

This schedule may be adjusted and supplemented depending on need and contingencies that may develop as studies proceed.

(3) Request for Waiver

It is anticipated that preliminary field studies, tests, and other activities to be conducted under the permit would not adversely affect cultural resources or endangered species and would cause only minor alterations or disturbances of lands and waters, and that any land altered or disturbed would be adequately restored. The Applicants therefore requests waiver of the full requirements of 18 CFR § 4.81 (c)(2).



#### (4) Statement of Costs and Financing

##### i. Estimated cost of studies

The estimated cost of carrying out and preparing the studies, investigations, tests, surveys, maps, plans and specifications described in this application is estimated to be between \$1.0 and \$1.5 million.

##### ii. Expected sources of financing

The expected sources of financing to conduct the studies described in this application are private investors and regional partners.

#### §4.81 (d) EXHIBIT 3: PROJECT MAPS

Notes:

1. No areas within the study boundary are designated as wilderness area or wilderness study area, or recommended for designation as wilderness areas.
2. No areas within the study boundary are included in or have been designated for study for inclusion in the National Wild and Scenic Rivers System



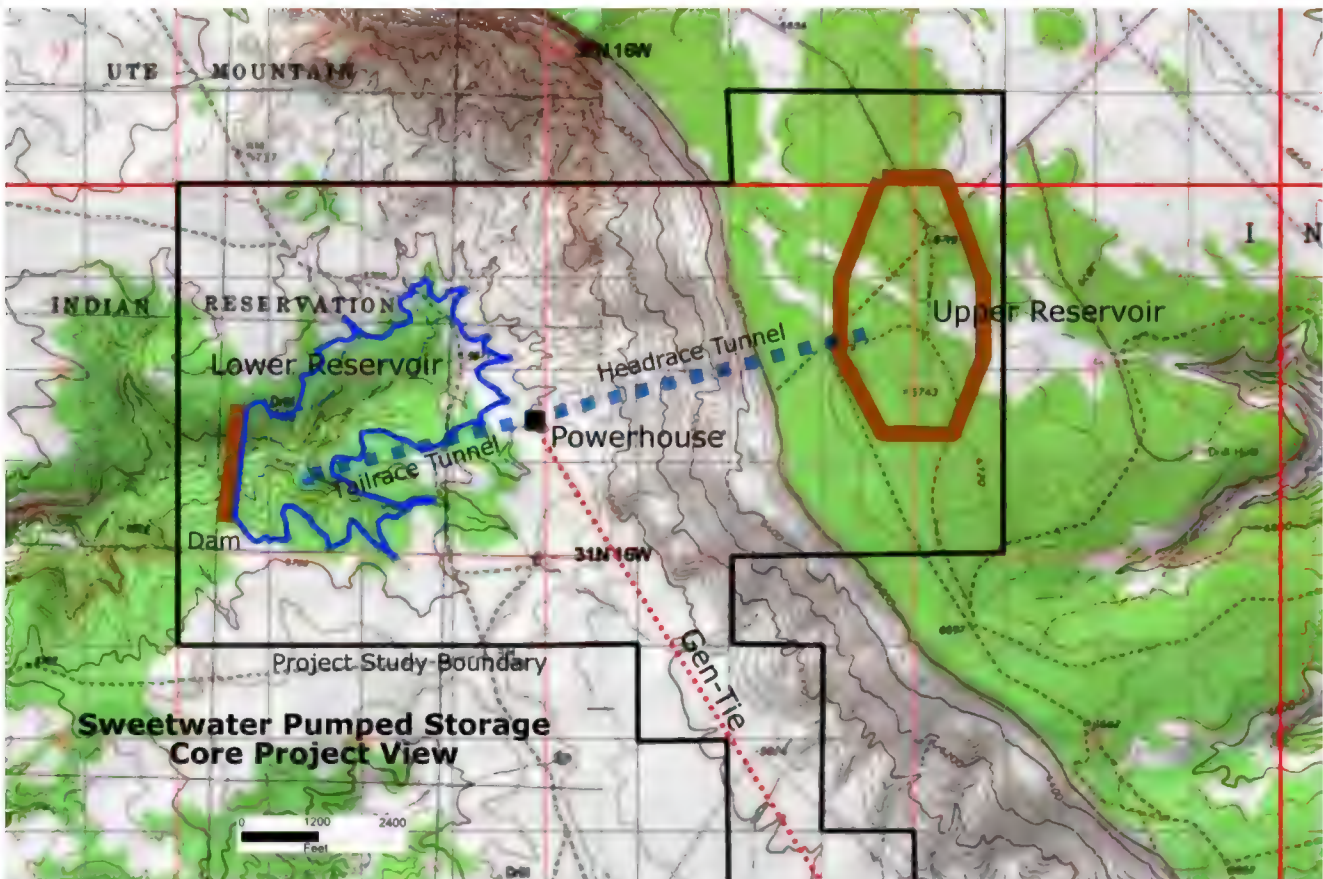
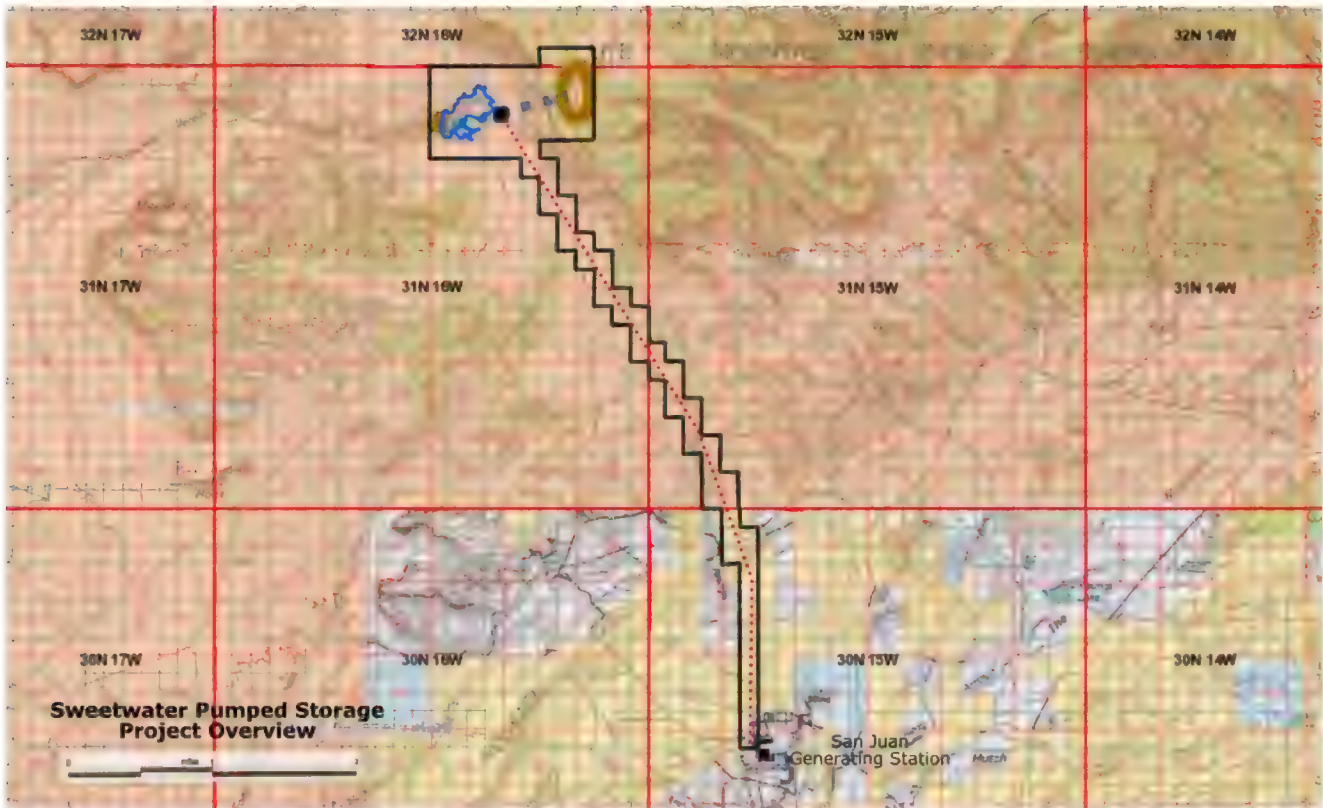


Exhibit 4: Section 4.81(b)(5) Federal Lands  
Form FERC-587

OMB No. 1902-0145  
(Expires 10/31/2018)

**LAND DESCRIPTION**  
**Public Land States**  
**(Rectangular Survey System Lands)**

1. STATE New Mexico 2. FERC PROJECT NO. \_\_\_\_\_

3. TOWNSHIP T30N RANGE R15W MERIDIAN New Mexico

4. Check one:

     License  
  X   Preliminary Permit

Check one:

  X   Pending  
     Issued

If preliminary permit is issued, give expiration date: \_\_\_\_\_

**5. EXHIBIT SHEET NUMBERS OR LETTERS**

<b>Section 6</b>	<b>5</b> <b>BLM</b> <b>Exhibit 3</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>
<b>7</b>	<b>8</b> <b>BLM</b> <b>Exhibit 3</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>
<b>18</b>	<b>17</b> <b>BLM</b> <b>Exhibit 3</b>	<b>16</b>	<b>15</b>	<b>14</b>	<b>13</b>
<b>19</b>	<b>20</b>	<b>21</b>	<b>22</b>	<b>23</b>	<b>24</b>
<b>30</b>	<b>29</b>	<b>28</b>	<b>27</b>	<b>26</b>	<b>25</b>
<b>31</b>	<b>32</b>	<b>33</b>	<b>34</b>	<b>35</b>	<b>36</b>

6. contact's name Matthew Shapiro  
telephone no. (208 246-9925)  
Date submitted September 23, 2019

This information is necessary for the Federal Energy Regulatory Commission to discharge its responsibilities under Section 24 of the Federal Power Act.



Form FERC-587

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3. TOWNSHIP T31N RANGE R15W MERIDIAN New Mexico

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<b>19</b> <b>BIA</b> <b>Exhibit 3</b>	<b>20</b>	<b>21</b>	<b>22</b>	<b>23</b>	<b>24</b>
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Document Content(s)

Prelim Permit App- Sweetwater Pumped Storage.PDF .....1